

Species Tag:	18006	Name:	¹³ CH ₃ D
Version:	1		¹³ C-Mono-deutero
Date:	May 2009		methane
Contributor:	B. J. Drouin H.S.P. Müller		
Lines Listed:	143	Q(300.0)=	807.8471
Freq. (GHz) <	4825	Q(225.0)=	525.1756
Max. J:	30	Q(150.0)=	286.6040
LOGSTR0=	-8.0	Q(75.00)=	102.2782
LOGSTR1=	-9.0	Q(37.50)=	36.9725
Isotope Corr.:	-5.784	Q(18.75)=	14.0711
Egy. (cm ⁻¹) >	0.0	Q(9.375)=	5.9646
μ_a =	0.0056	A=	157412.
μ_b =		B=	116325.
μ_c =		C=	B

The transition frequencies were taken from (1) B.J. Drouin, S. Yu, J.C. Pearson & H.S.P.Müller, J. Quant. Spectrosc. Radiat. Trans. *in press* 2009. In addition, infrared ground state combination differences were used in the fit. These were published in

(2) C. Chackerian Jr., G. Guelachvili, J. Molec. Spectrosc. 1980; 80: 244-248.

Hamiltonian operators involving only K were assumed to be identical to those determined via perturbed infrared transitions for the ¹²CH₃D isotopologue in (3). (3) C. Chackerian, Jr., E. S. Bus, W. B. Olson, and G. Guelachvili, 1986, J. Mol. Spectrosc., 117, 255; Octic parameters which were determined for ¹²CH₃D in (1) were held fixed in the analysis.

The dipole moment and distortion corrections are also taken from the ¹²CH₃D isotopologue (4) J. K. G. Watson, M. Takami, and T. Oka, 1979, J. Chem. Phys., 70, 5376. As the distortion effects are rather large the intensities should be viewed with increasing caution beyond J of about 8.